ABSTRACT

Luminescent microparticles and nanoparticles are provided for use either as internal standards for referencing fluorescent signals, or as markers for detecting biomolecules. Luminescence dyes are incorporated in inert form into solid materials such that they are protected from the influence of chemical and biological compounds in aqueous sample constituents. The photophysical characteristics of the dyes (spectral characteristics, luminescence quantum efficiency, luminescence fading time and polarization) remain unaffected. The surface of the nanoparticles and microparticles can be provided with reactive surfaces in order to enable covalent coupling of biochemicals or to eliminate aggregation.